

Caesars Palace Colosseum Showroom Las Vegas, NV

Design and Construction

The Colosseum Showroom is a 4,100-seat, state-of-the-art venue that ties into the Caesars Palace Casino and the Caesars Palace Forum Shops. Though smaller than the original in Rome, which could seat 50,000 spectators, its design offers a more intimate, yet modern-day sound system and acoustics that are perfectly matched so audience members viewing a performance hear and enjoy true sound quality with no background or reverberation found in lesser venues. The 22,000-square-foot stage is magnificent and has a 120-foot-wide by 45-foot-high proscenium arch, the largest in Las Vegas and one of the largest in the world.

The overall construction is true to Las Vegas form with rich stone flooring, top quality finishes and millwork that compliments all the other areas of the project. The Roman columns and arches replicate the original Colosseum, but are constructed with a more modern EIFS finish and colored to accentuate the richness with a golden crown and arch relief. The structure itself contains 5,100 tons of steel with 7,700 erectable pieces of steel within its 256-foot-diameter and 7-story exterior. 8,000 cubic yards of concrete have been placed over slab on grade and metal decking to create the sloped rakes for seating. HVAC is provided with 800 tons of air conditioning. Approximately 142 miles of electrical wire has been run through the heart of the structure. The fire sprinkler system contains 100,000 linear feet of pipe and holds 10,000 gallons of water.

Innovation

The multi-channel surround sound system with over 100 speakers will provide optimal sound throughout the theater. Mitsubishi has installed the world's largest LED screen, which is 40 feet tall by 120 feet wide and is located behind the Proscenium arch.

Construction Challenges

The original structural foundation was a traditional footing concept. This was changed to an innovative pile system where excavation came

after drilling and placing the piles. The secant piles not only serve as a foundation, but also as the interior wall of the basement.

One of the largest storm-drain culverts in Las Vegas runs underneath the Colosseum Showroom structure. The secant pile system (interlocking piles) serves as stabilization for one side of the culvert and is topped with a concrete cap. Large steel box girders, weighing 68,000 lbs. each, span from the pile cap on one side of the culvert to isolated footings on the other side. These box girders support approximately one third of the 7-story structure.

In an effort to reduce costs, extensive revisions occurred in the midst of structural steel erection while fabrication was being completed in two different states. Floors, escalators, and stairs were eliminated from the drawings, while lobbies, concessions and room layouts were reconfigured.

In order to complete the high ceiling MEPS as well as the acoustical finishes, a 70 ft. high scaffold structure was erected with a plywood floor that filled the entire inner-bowl seating area.

Tying into the existing Caesars Palace casino created many logistical challenges. An electrical room was kept operational throughout construction, temporary walls were built within the casino to separate operations from construction, traffic patterns had to be modified, and hours of construction were adjusted to keep from disturbing hotel guests.

In order to maintain schedule and budget, coordination and cooperation were of the utmost importance. Daily, sometimes hourly, meetings have been held in order to keep everyone updated and moving in the same direction. Many of the meetings were conference calls with an out-of-the-state architect and an out-of-the-country designer.

Despite many design and construction challenges, the project is on schedule to receive the Temporary Certificate of Occupancy (TCO) approximately six weeks ahead of contract schedule.

Project duration was 13 months.